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## MASTER FILE

### DSSD CENSUS 2000 PROCEDURES AND OPERATIONS MEMORANDUM SERIES R-12

MEMORANDUM FOR Richard Blass  
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Subject: Census 2000 ICM: County Sample Size Estimates-Reissue

This memorandum is being reissued for inclusion in the official *DSSD Census 2000 Procedures and Operations Memorandum Series*. All text in the version of this memorandum remains the same as the original version. **Some sample size estimates documented in this memorandum are obsolete. See memorandum R-14 of this series for the sample size estimates for the Accuracy and Coverage Evaluation survey.**

#### Introduction

The Sample Design Team has prepared county estimates of the ICM listing and interviewing workloads for Census 2000. These numbers can be used to get an indication of how the ICM work will be distributed across counties in a state. These sample sizes assume an ICM national sample size of 750,000 occupied and vacant housing units will be selected for interview and roughly two million housing units will be listed. If these sample size goals change, the county workloads will change. Furthermore, the actual sample sizes may be different to the extent the universe differs from the assumptions we made to estimate these numbers. We will provide your staff with a Lotus spreadsheet for all of the counties in the 50 states and the District of Columbia. Attachment B gives an extract from a Lotus spreadsheet of the county workloads for the state of Arizona. The county workloads are based on the 1990 county definitions. We did not have housing unit counts at a lower geographical level for Puerto Rico. So, Puerto Rico is not included in the spreadsheet.

### **Assumptions/Limitations**

There are several assumptions and limitations in computing the ICM 2000 sample sizes for each county.

- Proportional allocation based on 1990 Census data was used to compute sample sizes for each county within each state.
- We assumed that the housing unit distribution across counties within each state does not change between 1990 and 2000. We looked at this assumption for interview workload by comparing the 1990 Census Data with the 1997 Estimates of the Population of Counties. For the most part, the distributions were similar. In cases where there were some differences, often it was due to population shifts from one county into a neighboring county. We could not look at this assumption for listing workloads.
- We assumed the state allocation of block clusters documented in [1] and converted them to interview housing units by assuming a block cluster size of 30 housing units will be interviewed from each. See Attachment A.
- The interview sample size only includes ICM units (P-sample) for this analysis. These are not the enhanced list workloads.
- These county workloads are for blocks with at least three housing units in 1990. No small block estimates were computed.
- The listing workloads assume that large block clusters will be oversampled and then the housing units will be subsampled to yield roughly 30 housing units to be interviewed.
- The additional sample of 350 block clusters recommended in [1] for American Indian areas was not included in this analysis. If we were to include this additional sample, the sample will increase in counties with American Indian areas.
- No housing unit follow-up workload and no person follow-up workload was factored in this analysis.

### **Results**

Attachment A gives the interview workload and listing workload estimates for each state. It is possible for states with roughly equal interview workloads to have different listing workloads. The reason for this is that we accounted for the distribution of housing units in medium and large blocks. For example, the expected interview sample size for both Hawaii and South Dakota is 9,000 housing units. However, the estimated listing workloads are about 45,000 for Hawaii and 14,000 in South Dakota.

Attachment B is an extract of the Lotus spreadsheet for the counties in Arizona. The state workloads were proportionally allocated to each county. The name of the spreadsheet is titled 2kctywkd.wk4. We will provide the Lotus spreadsheet file to Jan Jaworski and Neala Stevens of your staff via cc:mail. If there are any questions, please contact either Ryan Cromar (x1636) or Debbie Fenstermaker (x4195).

### References

- [1] Memorandum for Killion from Schindler, "Allocation of the ICM Sample for Census 2000," May 6, 1997.

cc:

Sample Design Team

## Attachment A

Census 2000 : Proposed ICM State Design Parameters				
Division	State	Block Clusters	Interview Housing Units	Listing Housing Units
New England	Connecticut	377	11,310	30,039
	Maine	309	9,270	16,577
	Massachusetts	375	11,250	27,255
	New Hampshire	307	9,210	21,128
	Rhode Island	373	11,190	23,557
	Vermont	300	9,000	17,009
Mid-Atlantic	New Jersey	461	13,830	37,394
	New York	1,261	37,830	143,862
	Pennsylvania	585	17,550	34,920
South Atlantic	Delaware	413	12,390	21,610
	DC	384	11,520	53,369
	Florida	520	15,600	62,835
	Georgia	399	11,970	37,384
	Maryland	368	11,040	41,107
	North Carolina	400	12,000	26,717
	South Carolina	422	12,660	26,709
	Virginia	371	11,130	37,114
	West Virginia	425	12,750	24,872
East South Central	Alabama	417	12,510	25,347
	Kentucky	447	13,410	29,621
	Mississippi	402	12,060	19,984
	Tennessee	433	12,990	30,255
West South Central	Arkansas	494	14,820	24,744
	Louisiana	595	17,850	37,378
	Oklahoma	426	12,780	25,239
	Texas	1,945	58,350	176,231
East North Central	Illinois	380	11,400	27,900
	Indiana	300	9,000	17,373
	Michigan	317	9,510	20,155
	Ohio	358	10,740	26,183
	Wisconsin	300	9,000	15,777
West North Central	Iowa	300	9,000	14,108
	Kansas	300	9,000	16,277
	Minnesota	300	9,000	19,020
	Missouri	300	9,000	19,807
	Nebraska	300	9,000	14,156
	North Dakota	300	9,000	15,668
	South Dakota	300	9,000	14,054
Mountain	Arizona	492	14,760	47,806
	Colorado	479	14,370	37,908
	Idaho	412	12,360	19,009
	Montana	420	12,600	17,822
	Nevada	468	14,040	62,762
	New Mexico	481	14,430	31,698
	Utah	478	14,340	32,592
	Wyoming	418	12,540	18,071
Pacific	Alaska	334	10,020	27,169
	California	2,753	82,590	284,060
	Hawaii	300	9,000	45,059
	Oregon	320	9,600	20,569
	Washington	332	9,960	26,763
Total		24,651	739,530	1,944,052

An additional 350 block clusters (10,500 Interview Housing units and 17,850 Listing Housing units to be listed) are targeted for the American Indian areas. Puerto Rico is not included in this analysis.

## Example of LOTUS 1-2-3 Spreadsheet

This table shows the estimated interview and listing workload for the counties in Arizona.

Arizona ICM County Workload Estimates					
Division Code	State Code	County Code	County	Interview Housing Units	Listing Housing Units
8	04		Arizona (State)	14,760	47,806
8	04	001	Apache	232	696
8	04	003	Cochise	354	882
8	04	005	Coconino	379	1,118
8	04	007	Gila	203	582
8	04	009	Graham	79	138
8	04	011	Greenlee	31	67
8	04	012	La Paz	89	223
8	04	013	Maricopa	8,503	29,116
8	04	015	Mohave	442	767
8	04	017	Navajo	342	822
8	04	019	Pima	2,661	9,139
8	04	021	Pinal	463	1,086
8	04	023	Santa Cruz	85	211
8	04	025	Yavapai	484	1,412
8	04	027	Yuma	413	1,545